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A Catalogue with Explanatory Notes of the Exhibits from the Department of Education.

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A CATALOGUE

WITH

EXPLANATORY NOTES OF THE EXHIBITS

FROM THE

DEPARTMENT OF EDUCATION,

EMPIRE OF JAPAN,

IN THE

INTERNATIONAL HEALTH AND EDUCATION EXHIBITION,

HELD IN LONDON, 1884.

LONDON:

WILLIAM CLOWES AND SONS, LIMITED,

INTERNATIONAL HEALTH EXHIBITION,

AND 13, CHARING CROSS.

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INTRODUCTION.

The official communication from the English Government requesting the Japanese Government to partake in the International Health Exhibition, to be opened in London in May of the present year, was received by our Department of Education only in the middle of February last. The actual work of collecting exhibits was not therefore begun until the consent of the English Government was obtained, through its Minister resident in Japan, to the necessary delay there would be in completely arranging our section. The interval of time thus allowed us—the exhibits were shipped on May 11th—was too short to enable us to make a collection such as would fairly represent our educational system. Especially is it to be regretted, and we ask therefore the visitors' indulgence, that the exhibits on Technical Education, to which special attention was to be paid in this Exhibition, are very incomplete, for though this is no doubt due partly to the very recent introduction of Systematic Technical Education into our country, it is also in a large measure owing to the lack of necessary time.

The exhibits brought together are apparatus, instruments, and text-books in actual use, results of pupils' work, etc. Articles that are not attractive in appearance have been carefully left as they are, and not been purposely embellished for the Exhibition.

Although visitors would be able to understand the nature of each exhibit from the label accompanying it, the following catalogue with

explanatory notes on more important articles, is published with the hope that it may not be unwelcome to persons specially interested in educational matters. Those who are desirous of obtaining further information in regard to our educational system are referred to another publication: "General Outlines of Education in Japan," which can be obtained in the Japanese Section.

By order of the Minister of Education,

SEICHI TEJIMA, *Commissioner*,

Director of Tokio Educational Museum and Attaché Supérieur of the Department of Agriculture and Commerce.

Department of Education, Tokio, Japan.

NOTE.—This Catalogue was prepared before leaving Japan, but on arrival of the exhibits, it was found that many of those with which most pains had been taken had been spoiled by sea water on the passage, owing to the occurrence of fire on the steamer—such as the appliances, designs, works, &c., relating to art education, silk weaving and embroidery works by girls of the industrial school, and bronze works by the deaf and dumb boys, together with the articles and specimens showing different stages of the process of teaching—and as there is too little time to rearrange this catalogue, those which are not exhibited on this account have been marked with an asterisk [*].

S. T.

LONDON, *Sept.*, 1884.

CATALOGUE

WITH EXPLANATORY NOTES OF THE EXHIBITS

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DIVISION I.—HEALTH.

GROUP IV.—SCHOOLS.

Class XXXIV.

Designs and Models of Improved Buildings for Elementary Schools, Infant Schools and Crêches.

From the days of the feudal system, schools were established in each clan for both literary and military training. Buildings used for this purpose were totally different in style from those of to-day, and only very few of them are now left. School-buildings at present in use have been built mostly within the last ten years, and in many cases special attention was paid to the requirements of hygiene and school management. Models of two or three school-buildings of later construction are given as examples. In districts where no special school-building has yet been built, temples or private dwellings are being used temporarily.

(1.) Model of Elementary School attached to Tokio Normal School.

This elementary school, which is attached to, and stands within the grounds of the Tokio Normal School, under the immediate control of the Department of Education, is intended to serve as the model for schools of the same grade throughout the country, both as regards the methods of instruction and the construction of the building. To normal schools of all the *Fu* (municipalities) and *Ken* (prefectures) similar elementary schools are attached, to enable students to go through practical exercises in methods of instruction, and also to serve as models within their respective jurisdictions.

(2.) Ground Plan of Elementary School attached to Tokio Normal School.

(3.) Photograph of School Room, with Boys at Recitation. Elementary School attached to Tokio Normal School.

(4.) Model of Kiogoku Public Elementary School, Kiyoto.

This model represents only one of the blocks of buildings belonging to the school—the plan of the whole being given in No. 5. This school has been built in accordance with the directions for constructing school buildings issued by the Kiyoto Fucho (City Government) for its own jurisdiction, and may be said to be a typical specimen of the Japanese mode of construction. Many elementary schools have lately been built upon this model.

(5.) Ground Plan of Kiogoku Public Elementary School, Kiyoto.

(6.) Model of Hongo Public Elementary School, Tokio.

(7.) Ground Plan of Hongo Public Elementary School, Tokio.

(8.) Model of Bancho Public Elementary School, Tokio.

(9.) Ground Plan of Bancho Public Elementary School, Tokio.

The Tokio Fucho (City Government) has not issued any directions for school construction. The above two models will, however, suffice as examples of school-buildings in Tokio.

(10.) Directions for Construction of School-Buildings, and of Desks and Chairs for Use in Elementary Schools. Issued by Kiyoto Fucho (City Government).

(11.) Plan of Tokio Female Normal School Grounds.

(12.) Photograph of Tokio Female Normal School, with its adjuncts: Girls' Elementary School and Kindergarten.

Class XXXVII.

School Kitchens and Arrangements for School Canteens. Methods of Warming Children's Meals, etc.

(1.) Model of Students' Quarters, Tokio Female Normal School.

For the sake of female students who come from distant parts of the Empire, and also for convenience in instruction and administration, means are provided for lodging students within the grounds of the Normal School. The building used for this purpose, as shown in the model, contains not only sleeping-rooms but apartments for other purposes, as kitchens, bath-rooms, rooms for hair-dressing, etc. Students are required to do their own cooking, washing, etc., thus early accustoming themselves to household duties. It should be remarked that rooms in this building are made small on purpose; for instance, instead of one vast kitchen, which would be necessary if it were for the use of all, several small ones are provided. This system has been adopted in order to give home-like appearances to the building, and to give students the feeling of being in a private family as much as circumstances will allow. To this building, not only students supported by public expenses, but those studying by private means are admitted if they desire it. There are similar provisions made for the accommodation of students in some of the Female Normal Schools established by *Fu* and *Ken*. (Municipalities and Prefectures.)

(2.) Ground Plan of Students' Quarters, Tokio Female Normal School.

(3.) Models of Kitchen Utensils, in Use in Tokio Female Normal School.

These may serve as the specimens of utensils used in every Japanese kitchen.

(4.) Lunch-boxes for School Children, wrapped in Cloth. 3 forms.

The principal food of our people being rice, lunch-boxes differ naturally from those in use in other countries. Books are done up in cloth and carried about in the same way as lunch-boxes.

Class XXXVIII.

Precautions in Schools for Preventing the Spread of Infectious Diseases, School Sanitaria, Infirmaries, etc.

(1.) Directions to be followed in case Inmates of Students' Quarters are taken with Infectious Disease, with an account of Precautionary Measures adopted during recent Cholera Epidemics in Tokio. University of Tokio. (In Japanese and English).

Class XXXIX.

Special Apparatus for Physical Training in Schools, Gymnasia, Apparatus for Exercise, Drill, etc.

(1). Model of Government School for Physical Training.

This school is under the immediate jurisdiction of the Department of Education, and is established to teach gymnastics, physical education, and infantry manœuvres as adopted in our army. Its students consist of (1) Teachers of normal and other schools sent from various Fu (cities), and Ken (prefectures), at public expense to learn gymnastics, and (2) Students of institutions in Tokio under the direct control of the Department of Education. (For further details see Class LVI. No. 31. Explanatory remarks on Exhibits from Government School for Physical Training). As most of those who have finished their course here have become teachers in institutions established by *Fu* and *Ken*, as well as in village and ward schools, gymnastics have gradually come to be taught very widely. No. 10 of the present class is the set of gymnastic apparatus used in this school.

(2.) Photograph of Students going through Gymnastic Exercises, Government School for Physical Training.

(3.) Photograph of Boys going through Gymnastic Exercises, Elementary School attached to Tokio Normal School.

(4.) Photograph of Boys at various Sports, Elementary School attached to Tokio Normal School.

(5.) Sketch representing Girls at Play with various Toys.
For toys see Division II. Group VI. Class 47 No. 1.

(6.) Book on Gymnastic Exercises.

(7.) Ditto.

(8.) Simometer.

(9.) Dynamometer.

(10.) Set of Gymnastic Apparatus.

One of these apparatus—the canvas bag holding beans—is intended only for the use of young women.

(11.) Set of Apparatus used in Game of "Dakiu."

"Dakiu" (somewhat resembling the game of Polo) has come down from olden times, and may be said to be a national game of Japan. It is played both on foot and on horseback, school boys generally adopting the former course. See Nos. 12, 13, and 14.

(12.) Model of Game of "Dakiu" as played on Horseback.

(13.) Painting, representing game of "Dakiu" as played by feudal vassals of the Tokugawas, during the supremacy of that family.

(14.) Painting, representing game of "Dakiu," as played by school boys of the present day.

(15.) Set of Fencing Apparatus.

(16.) Sketch, representing Fencing Exercises.

(17.) Set of Apparatus for Archery Practice.

(18.) Sketch, representing Archery Practice.

(19.) Sketch, representing Exercises in "Jiujitsu" (kind of wrestling).

These arts (Fencing, Archery and Jiujitsu) were considered as an essential part of military training for a samurai (knight). As they afford opportunities for splendid physical exercises, they have been revived in some schools. See Nos. 16, 18, and 19, to get an idea of exercises in these arts. No. 18 represents the Archery practice of olden times.

Class XL.

Literature relating to Classes XXXIV–XXXIX. Models, Statistics, Diagrams, &c.

(1.) Chart containing :—
- (1.) Table of Health Statistics in Students' Quarters.
- (2.) Table of Ages for Admission and of Length of each Course.
- (3.) Table of Average Number of Hours for Study and Recreation for those in Students' Quarters. University of Tokio (in Japanese).

(2.) The same Chart (in English).

(3.) Table of Measurements of Twenty Individuals aged between 18 and 23, showing Rate of Growth and Development of Physical Powers within Fixed Periods under Systematic Exercises in Government School for Physical Training.

(4.) Health Register of Students, Tokio Female Normal School.

DIVISION II.—EDUCATION.

GROUP VI.—EDUCATIONAL WORKS AND APPLIANCES.

Class XLVII.

Kindergarten.

Owing to the recent introduction of the Kindergarten system into our country, there are as yet only very few of them. Of these, the most completely equipped is that attached to the Tokio Female Normal School under the direct control of the Department of Education. It was established in order to give students in the latter institution a practical acquaintance with Kindergarten methods, and is also intended as the model for the whole country. The number of Kindergarten will probably be considerably increased hereafter, as the Minister of Education has lately issued an order to the effect that children in Elementary Schools, when under six, should be taught according to Kindergarten methods.

A.—No apparatus or fittings for Crèches are exhibited.

B.—Games, Toys and Kindergarten Amusements.

(1.) Toys used in Girls' Elementary School and Kindergarten attached to Tokio Female Normal School.

These toys used both in the Girls' Elementary School and Kindergarten are calculated to help the development of the mind and body of children. (*See No. 5 of the present Class and also No. 5 of Class 39.*)

(2.) Common Toys and Picture Books (54 articles). Japanese toys, of which specimens given here will give an idea, are often instructive in that they illustrate physical laws, and can be utilized for teaching the rudiments of science. In village-schools which cannot afford to buy physical apparatus, &c., teachers sometimes resort to these toys to impress more vividly what they are teaching.

(3.) Fancy Papers.

(4.) Folded Fancy Paper Figures (19 articles). Fancy papers have been common from olden times, and are extensively used by children to ornament boxes, &c. They are also cut and folded into various figures representing common animals, plants and utensils. This exercises children's ingenuity, and helps to make their fingers nimble.

(5.) Sketch, representing Kindergarten Children at Play with Various Toys, Tokio Female Normal School.

C.—Models and Appliances for Teaching.

(6.) Blackboard for use in Kindergarten attached to Tokio Female Normal School.

(7.) Ditto.

(8.) Kindergarten Gifts. Kindergarten attached to Tokio Female Normal School (16 articles).

As Froebel's methods are adopted in our Kindergarten, the gifts devised by him are used.

(9.) Charts for Moral and Object Teaching, Kindergarten attached to Tokio Female Normal School.

These are specimens of charts used to illustrate, and thus to impress more vividly, stories which are calculated either to arouse children's moral feelings, or to add to their store of positive knowledge. Thus, the first chart illustrates the story of certain monkeys in the province of Shinano who were very affectionate to their mother-monkey, and is intended to bring out the duty of filial piety. The second chart gives the story of the famous penman, Ono-no-Tōfoo. Having been greatly impressed by seeing a frog after repeated failures, and by persistent efforts, succeed in jumping up to a willow branch, this person took to studying writing, and by applying himself strenuously, became finally to be one of the three best penmen Japan has ever known. This, it need hardly be said, is intended to impress the necessity of patience and diligence. While these illustrate moral stories, the third and fourth charts represent respectively the rearing of silk-worms and the process of weaving, and are used to teach the first rudiments of Domestic Economy and Natural History.

D.—Specimens of Work done in Kindergarten.

(10–11.) Specimens of Work done in Kindergarten attached to Tokio Female Normal School. (1 Box and 1 Framed Piece.)

These have been devised more or less by the children themselves.

(12–13.) Specimens of Work done in Kindergarten attached to Sakurai Female School (private), Tokio. (1 Box and 1 Portfolio.)

(14–15.) Specimens of Work done in Kindergarten attached to Kōtō Public Female School, Tokio. (2 Portfolios.)

Class XLVIII.

Elementary Schools.

In schools of feudal times no chairs were used, scholars squatted on the matted floor and used very low tables. As desks and chairs are to be preferred, from the point of hygiene and school-management, they have now replaced the low tables in almost every school, and considerable attention is also being paid to their improvements. The courses of study have undergone equally great changes. While morals and writing were the chief topics of study, there are taught now, besides morals, reading, writing, and arithmetic, other branches like geography, physics, chemistry, and natural history even in Elementary Schools. This has naturally greatly increased the number of school text-books. The exhibits placed in this class will give an idea of the apparatus, fittings, text-books, &c., now in use in our Elementary Schools.

A.—Apparatus and Fittings.

(1.) Desk for use in Elementary School attached to Tokio Normal School.

(2.) Outfit of Elementary School Pupil, Elementary School attached to Tokio Normal School. (8 articles.)

An abacus is here included, as rapid methods of calculation by that instrument are taught. The copy-book that requires no ink but water only is one of the most convenient of recent inventions. As our children have to acquire difficult Chinese characters besides the forty-eight letters of the Japanese syllabary, the task before them is not to be compared with the comparatively easy one of learning an alphabet of only twenty-six letters. On this account, more hours are given to writing in our schools than is the case in those of Europe or America. Several exhibits following are apparatus for writing.

(3.) Box of Ink-stone for Indian Ink with Accessories, Elementary School attached to Tokio Normal School.

(4.) Box of Ink-stone for Red Ink with Accessories for Use of Teachers. Elementary School attached to Tokio Normal School.

After pupils have thoroughly mastered a certain number of characters, they write them out on clean paper. In correcting and marking these, teachers invariably use the red colour, and thus a stone for red ink becomes necessary.

(5.) Model of Adjustable Blackboard used in Elementary School attached to Tokio Normal School.

This model is one-third of the original article. It consists of two parts, placed one in front of the other, which can be slid up and down past each other by means of pulleys at the side, and be thus adjusted to the height of each child. What a scholar has put down below can then be easily pulled up for the inspection of the whole class.

(6–7.) School Room Abaci (2).

These are intended for use only in teaching. In all abaci, a bead above the cross-bar represents 5, while each of the five lower ones placed on a line stands for 1, thus making it possible to count 10 on every vertical line. These arbitrary values are rather hard to comprehend by children, and each bead, in No. 6 has therefore its value marked on it with dots. When these relations have been well grasped, No. 7 is used.

(8.) Apparatus for Teaching Fractions, Girls' Elementary School attached to Tokio Female Normal School.

This apparatus makes the relations of fractions comparatively simple and easy to comprehend by children. For the mode of using it, see Explanatory Remarks accompanying it.

(9.) Slate for Use in Schools.

(10.) Slate-Wipers (large and small).

(11.) Slate-Pencils (3 kinds).

(12.) Paper-Slate.

(13.) Paper Tablet-Slate.

(14.) Chalk.

(15.) Water-Colours.

(16.) Cube.

All these are necessary articles in every Elementary School.

(17, 18.) Desks for Elementary Schools (2).

These are intended for Elementary Schools which have no special desks for writing exercises. The upper surface of the desks, it will be seen, is made flat, as otherwise water in the ink-stone will spill over.

(19.) Model of Desk with two Boys seated. Made by Deaf-Mutes of Institution for the Blind and the Deaf-Mute, Kiyoto.

The desks and stools of this description are in use in the Institution for the Blind and the Deaf-Mute, and in Elementary Schools, in Kiyoto. It is claimed by the Director of the above institution that when scholars are made to sit with their body and hands arranged as in the model, their attention is fixed better on the thing before them, and that they moreover do not feel the cold as much as if they were in other positions. The same Director has also his own views in regard to desks, stools, and the modes of arranging them, for which *see Class* 54, *No.* 18.

(20.) Figure of Boy, illustrating laws of determining maximum slope of back of stools.

This has also been devised by the Director of the Institution for the Blind and the Deaf-Mute, and been made by scholars of the same institution.

B.—Models and Appliances for Teaching, Text-Books, Diagrams and Examples.

(21.) Model of Clock.

(22.) Cabinet of Objects for Object-Lessons. Prepared by the Tokio Educational Museum.

This is a collection of nearly 200 common objects, and is used for Object-Teaching.

(23.) Apparatus for Teaching Spelling.

(24.) Numeral Frame.

(25.) Models of Geometrical Figures. (1 Box.)

(26.) Cabinet of Common Japanese Weights and Measures for use in Elementary Schools.

(27.) Geared Tellurian.

(28–74.) Set of Text-Books in use in Elementary School (for Boys) attached to Tokio Normal School. (47 works with 156 volumes, 26 charts and 5 rolls.)

These text-books relate to a number of subjects as Morals, Reading, Writing, Arithmetic, Geography, History, Drawing, Natural History, Physics, Chemistry, &c., but instead of referring each to its own class, they are all placed here as a set to give a general idea of text-books in use in Elementary Schools.

(75–109.) Set of Text-Books in use in Girls' Elementary School attached to Tokio Female Normal School. (33 works with 129 volumes, 2 portfolios, 7 charts.)

This set is essentially the same as that from Boys' Elementary School, with the only difference that books on Sewing and Etiquette—the subjects taught only to girls—are added here.

(110–135.) Text-Books for Elementary Schools, edited by Department of Education. (26 works, with 74 volumes, 38 maps and charts, and 2 rolls.)

To replace objectionable text-books published by private persons, or to supply a want of text-books on certain subjects, the Bureau of Compilation in the Department of Education undertakes to issue from time to time model text-books, a set of which is here brought together. These are very extensively used in Elementary Schools, throughout the whole country.

C.—Specimens of Work done in Elementary Schools.

(136–141.) Specimens of Work done in Elementary School (for Boys) attached to Tokio Normal School. Dictation Exercises, Map Drawings, Writings (with Teachers' Corrections), Musical Notes, Drawings, Examination Papers, &c. (24 volumes.)

(142–144.) Specimens of Work done in Girls' Elementary School attached to Tokio Female Normal School. Examination Papers, Compositions, Writings, &c (3 volumes.)

(145.) Examination Papers by Children of Elementary School attached to Tokio-Fu Normal School. (8 volumes.)

(146–148.) Specimens of Work done in Kōtō Public Female School, Tokio. Compositions, Writings, Drawings (by children between 10 and 13), &c. (3 volumes.)

(149–150.) Specimens of Work done in Sakurada Public Female School, Tokio. Compositions, Drawings. (2 volumes.)

(151–154.) Specimens of Work done in Meirin Female School (private), Tokio. Original Verses, Writings, Compositions. (2 volumes, 2 framed pieces.)

(155–160.) Specimens of Work done in Sakurai Female School (private), Tokio. Examination Papers, Drawings, Compositions (in English), &c. (6 volumes.)

It is to be regretted that the want of necessary time has not allowed us to collect specimens of school work from other districts besides Tokio—all the above exhibits being from that city only. But those given here will, it is hoped, give a fair idea of work done in our Elementary Schools. It is also unfortunate, though unavoidable, that examination papers, &c., are in a language not understood by Europeans. For specimens of needlework, &c., the visitor is referred to Class 49.

Class XLIX.

Domestic Economy in Schools for Girls.

A great deal of attention is paid to Domestic Economy in our Schools for Girls. Sewing is taught even in Elementary Schools, but as scholars in them are girls of only 11 or 12 years, nothing beyond the first rudiments is taught. Specimens of work done are shown in Nos. 17–22 of the present Class. In higher schools for girls and female normal schools, more advanced domestic arts are taught, and, as can be seen from specimens given in Nos. 14–16, students acquire a skill fully fitted to be turned to practical uses. Moreover, in schools for girls, where means are provided for lodging students, they are required to make themselves practically acquainted with the management of a kitchen, methods of cookery, arrangement of tables, and other useful household arts. In Kiyoto-Fu Female School, besides an advanced course of ordinary studies, special courses, generally extending over three years, are provided in various handiworks, as Sewing, Embroidery, Weaving, Rearing of Silk-Worms, Painting, &c., any one of which may be taken up at the option of students.

The reason why Sewing is carefully attended to in our schools is because an ordinary housewife in Japan has to do a great deal of sewing, in fact, so much, that nearly all clothes and dresses, except of most difficult kinds, are made at home, and there are comparatively few professional tailors and dressmakers. A girl who goes through only an elementary school is expected to have learned enough to make her fairly skilful with her needle with a little additional instruction at home.

As domestic arts have been taught hitherto mostly at home, text-books on these subjects are comparatively few.

A.—Models and Apparatus for the Teaching of Cookery, Housework, Washing and Ironing, Needlework and Embroidery, Dress-making, Artificial Flower-making, Painting on Silk, Pottery, &c.

*(1.) Charts for Teaching Domestic Economy for Use in Elementary Schools (6).

These charts have been prepared by Mohan Jiogakko, in the Prefecture of Tochigi, to illustrate terms in Sewing, Weaving and other domestic arts.

(2.) Charts for Teaching Sewing and Cutting of Cloth, with Handbook. For use in Elementary Schools. (A set.)

This was published by Fūkiokwai (a private school association in Tokio), for the purpose of teaching Sewing.

(3.) Needle-Box with Necessary Materials, for use in Tokio Female Normal School. (1 Set of 62 Articles.)

This is the ordinary needle-box used both in school and at home for holding instruments and materials necessary for sewing, as needles, threads, scissors, &c. As sewing is all done by hand and not on a machine, this needle-box, with the articles shown in the next exhibit, is all that is necessary for ordinary purposes.

(4.) Accessory Instruments for Sewing. For use in Tokio Female Normal School. (1 Box with 9 Articles.)

These articles comprising Flat-iron, Smoothing Iron, &c., are also necessary for sewing. As their forms differ from foreign instruments used for the same purposes, the methods of using them are also naturally different.

(5.) Set of Instruments for making Relief Pictures. For use in Tokio Female Normal School. (1 Box with 7 Articles.)

Making Relief Pictures is also adapted to women's nimble fingers, and is taught along with sewing in girls' schools. Specimens of work done are arranged further on with those of Sewing.

(6.) Sketch representing Girls of Tokio Female Normal School at Sewing Lessons.

Although chairs and desks are almost universally used in schools, Sewing and Etiquette are taught, sitting in the Japanese fashion on the matted floor.

*(7.) Model of Apparatus used in Weaving Ornamental Designs by Tsuzurcöri Process. Kiyoto-Fu Female School. (1 Set of 6 Articles.)

This model shows the essential parts of the loom for weaving small pieces of ornamental cloth for portes-monnaie, &c., by the Tsuzureöri process. (1) is the design to be worked out; (2) is the shuttle for woofs; (3) are the bamboo sticks to which are fastened (4) threads arranged in two sets, each set holding alternate warp-threads together; (5) are the reeds through which warp threads are passed to keep them separate; (6) is the comb for bringing woofs close to one another. For the whole of a loom, and the process of weaving, see the Explanatory Notes from the School. In teaching this art, the following order is observed:—First, weaving of small pieces for portes-monnaie, &c., without any ornamental designs; second, weaving of similar small pieces, with designs and copying of such designs; finally, weaving of large pieces as window curtains, table covers, with fine and elaborate designs of animals, flowers, &c., and copying of such designs. For specimens of small pieces, see the fourth and fifth pieces in the Portfolio, No. 23; for large pieces see the table covers, Nos. 24 and 25.

*(8.) Set of Instruments for making Relief Pictures. Kiyoto-Fu Female School (1 Box with 5 Articles).

These instruments are essentially the same as those shown in No. 5. A design with birds and flowers, and the methods for cutting it out—see (6)—are shown in addition here. The order in which this art is taught is as follows:—First, small simple designs are worked out. Then boxes, plants, animals, human figures are attempted; and finally elaborate pieces for framing, &c., are undertaken. For specimens of work see the 8th, 9th, and 10th pieces in the Portfolio, No. 23.

*(9.) Illustrations of Process of Embroidery. Kiyoto-Fu Female School.

This exhibit illustrates the process of embroidery. The instruments used are the frame for keeping the cloth to be worked stretched, spools for gold threads, bamboo spools, needles, dish for dissolving white lead, and brushes (the last two for marking out designs on the cloth). In this course is taught at first embroidering of simple designs with gold thread, together with copying of designs and methods of stretching cloth on the frame; afterwards embroidering of more and more complex designs with copying of the same, and the laws of distribution of colours. For specimens of work see the 1st to 4th pieces in the Portfolio, No. 23.

*(10.) Illustrations of Different Stages in Preparation of Bordered Relief Pictures. Kiyoto-Fu Female School.

The instruments used in this are the same as those for ordinary relief pictures (see No. 8). In this course are taught first copying of designs, pasting thick paper on the back of designs, cutting out designs (leaving margins and principal lines, for instance, if leaves, leaving margins and large veins), pasting pieces of silks or other stuffs on the cut-out places, fixing of gold dust, &c. After these are mastered, elaborate designs with animals, plants, and characters are attempted. For specimens of work see the 11th to 14th pieces in the Portfolio, No. 23.

*(11.) Illustrations of Different Stages in Preparation of Patchworks. Kiyoto-Fu Female School.

In this kind of patchworks, designs are reproduced by *sewing* together pieces of stuff. To prepare them, the figures of animals, plants, or any other designs are cut out of thick paper, and then various stuffs are cut to fit those, and sewed together so finely with threads of the same colours as the pieces, that no stitches are to be seen and the designs look as if woven or dyed out. This art is taught to all students in sewing, as it is very useful in patching up accidental tears or holes in costly dresses, &c. For specimens of work see the 15th piece in the Portfolio, No. 23.

*(12.) Illustrations of Different Stages in Preparation of Patchworks. Kiyoto-Fu Female School.

This kind of patchworks is produced by *pasting* together different pieces, and is therefore only a species of relief pictures before mentioned (see No. 8). The method of preparation is as follows:—A design is first drawn on thin paper. This, being then placed on thick paper, is traced over with a metal or bamboo spatula. The design thus transferred, has its different parts cut out of the thick paper, and pieces of various stuffs are pasted on them. These are next put together with absolute exactness, and produce the given design. This art is taught to such of the students in sewing as desire it. For specimens of work see the 16th piece in the Portfolio, No. 23.

*(13.) Preparation of Special Kind of Embroidery. Kiyoto-Fu Female School.

This kind of embroidery is taught to all students as the first steps in sewing to give practice in handling needles. Designs are not drawn beforehand on cloth, but are simply worked out at sight. For specimens of work, see the 17th piece in the Portfolio, No. 23.

B.—Specimens of School-Work.

(14.) Specimens of Needlework by Scholars of Higher School for Girls attached to Tokio Female Normal School. (1 Box with 12 Articles.)

(15.) Specimens of Relief Pictures and Ornamental Knots. Higher School for Girls attached to Tokio Female Normal School. (1 Box with 26 Articles.)

The methods of tying ornamental knots are taught with sewing.

(16.) Specimens of Knitting and Models in Paper of Various Pieces of Clothing. (1 Box with 23 Articles.)

Knitting after the European style is taught also with sewing. Paper models will serve to give an idea of what our clothes are like.

(17.) Specimens of Needlework by Scholars of Girls' Elementary School attached to Tokio Female Normal School. (1 Box with 20 Articles.)

(18.) Specimens of Needlework by Scholars of Sakurada Public Female School, Tokio. (2 Boxes with 10 Articles.)

(19.) Specimens of Needlework by Scholars of Meirin Private Female School, Tokio. (8 Boxes with 48 Articles.)

(20.) Specimens of Needlework by Scholars of Kōtō Public Female School. (1 Box with 6 Articles.)

(21.) Specimens of Needlework by Scholars of Fukagawa Public Elementary School, Tokio. (1 Box with 4 Articles.)

(22.) Specimens of Needlework by Scholars of Sakurai Female School (private), Tokio. (1 Box with 8 Articles.)

(23.) Portfolio, with Specimens of Handiworks by Students of Kiyoto-Fu Female School.

The 1st–4th pieces are specimens of Embroidery.
„ 5th–7th „ „ Tsuzureöri.
„ 8th–10th „ „ Relief Pictures.
„ 11th–14th „ „ Bordered Relief Pictures.
„ 15th piece is a specimen of Patchworks by Sewing.
„ 16th „ „ „ Pasting.
„ 17th „ „ Special Kind of Embroidery.
„ 18th–22nd pieces are specimens of Painting from Life.
„ 23rd–24th „ „ Writing.

*(24.) Tsuzureöri Table Cover with Classical Designs. By two Students (aged respectively eighteen and nineteen) of Kiyoto-Fu Female School.

*(25.) Tsuzureöri Table Cover with Ornamental Designs. By Students of Kiyoto-Fu Female School.

In ordinary Tsuzureöri pieces, designs are good for one side only. In the present specimen, it ought to be specially noticed that the design is good for both faces, and the work should be appreciated accordingly.

Class L.

No Exhibits.

Class LI.

Science Teaching.

Realising the importance of teaching science to our children, the Department of Education has encouraged as much as possible its introduction to schools, and the first rudiments are taught already in Elementary Schools. As instruments, apparatus, and specimens are necessary for this purpose, the Department of Education has given articles of this description as prizes, whenever any school has merited a special reward. The prizes thus distributed are the same as the sets of instruments and specimens, given in the present class, and are prepared by the Tokio Educational Museum.

Science teaching has so far advanced in our country that in some schools as the Tokio Normal and Tokio Female Normal Schools, scholars have been interested to make their own apparatus for experiments.

A.—Apparatus and Models for Elementary Science Instruction in Schools.

(1.) Apparatus for Easy Experiments in Physics and Chemistry for use in Elementary Schools. (40 Articles.)

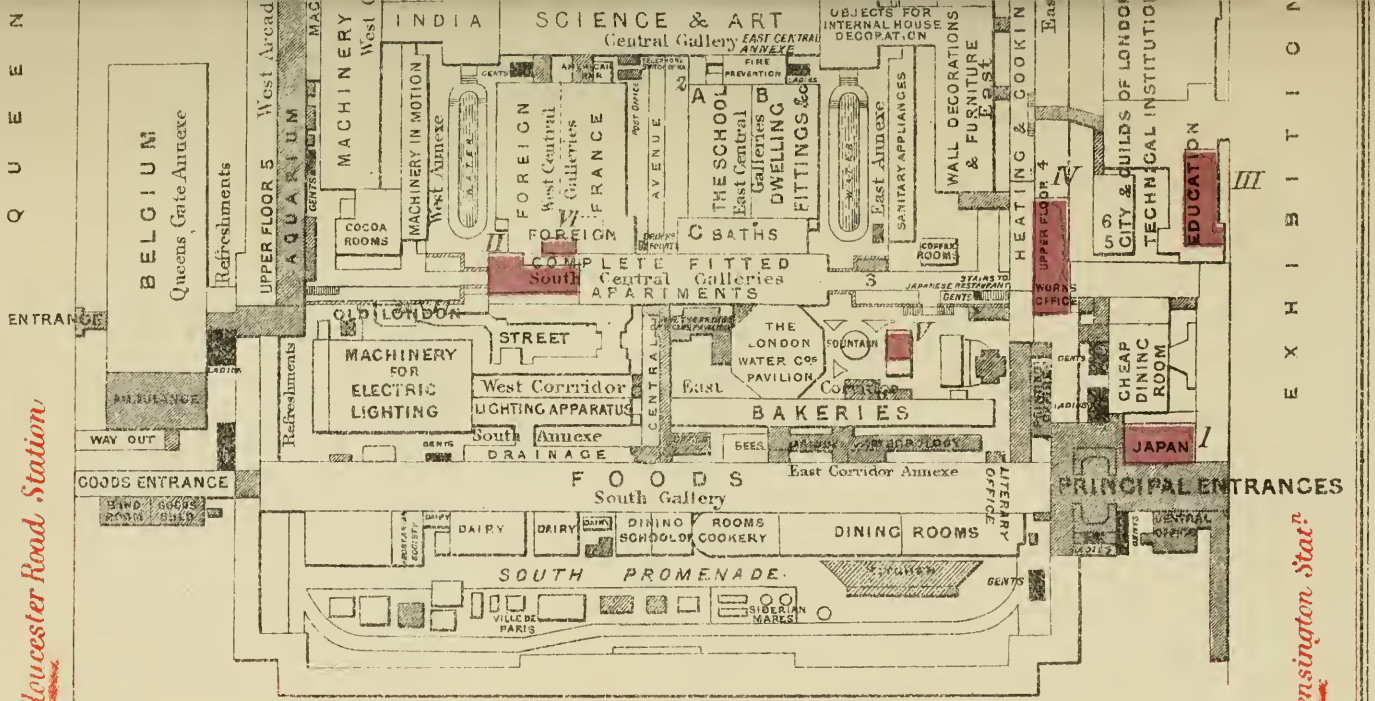
(2.) Models of Mechanical Powers for use in Elementary Schools. (6 Articles).

(3.) Set of Zoological Specimens for use in Elementary Schools. Prepared by the Tokio Educational Museum. (82 Specimens.)

(4.) Set of Apparatus for Collecting and Preserving Insects. Prepared by the Tokio Educational Museum. (1 box.)

These have been put together as a set for the use of school children.

(5.) Set of Dried Specimens of Japanese Plants for use in Elementary Schools, prepared by the Tokio Educational Museum. (101 Specimens.)

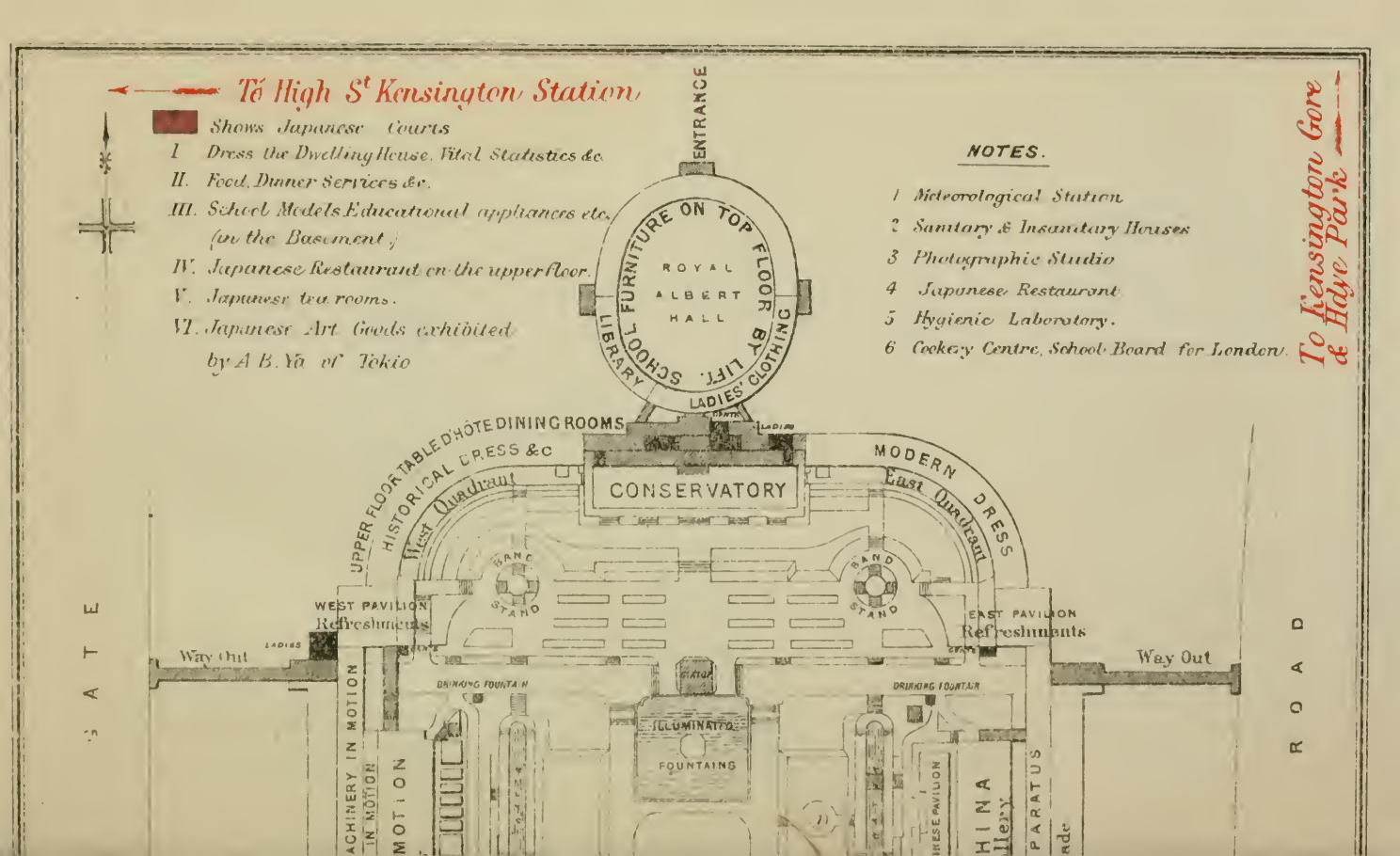


GENERAL PLAN

INTERNATIONAL HEALTH EXHIBITION, LONDON, 1884.

W.m Clowes & Sons Limited Litho Duke St Stamford St S.E. 1566

Wilson Beaumont Surveyor to the Executive Council


To High St Kensington Station
Shows Japanese Courts
I. Dress the Dwelling House. Vital Statistics &c.
II. Food, Dinner Services &c.
III. School Models Educational appliances etc. (on the Basement)
IV. Japanese Restaurant on the upper floor.
V. Japanese tea rooms.
VI. Japanese Art Goods exhibited by A. B. Ya of Tokio
NOTES.
1 Meteorological Station
2 Sanitary & Insanitary Houses
3 Photographic Studio
4 Japanese Restaurant
5 Hygienic Laboratory.
6 Cookery Centre, School Board for London.
To Kensington Gore & Hyde Park
ENTRANCE
FURNITURE ON TOP FLOOR
ROYAL ALBERT HALL
LIBRARY
SCHOOL BOOKS
LADIES' CLOTHING
LADIES
GENTS
UPPER FLOOR TABLE D'HOTE DINING ROOMS
HISTORICAL DRESS &C
West Quadrant
CONSERVATORY
MODERN DRESS
East Quadrant
BAND STAND
BAND STAND
WEST PAVILION
Refreshments
EAST PAVILION
Refreshments
Way Out
Way Out
LADIES
GENTS
DRINKING FOUNTAIN
DRINKING FOUNTAIN
STATUE
ILLUMINATED FOUNTAINS
MACHINERY IN MOTION
MACHINERY IN MOTION
CHINA
APPARATUS
GATE
ROAD

(6) Set of Apparatus for Collecting and Preserving Plants for use by School Children, prepared by the Tokio Educational Museum. (1 Box.)

(7.) Specimens of Useful Japanese Wood for use of Schools. (100 Specimens.)

(8.) Set of Japanese Minerals for use in Schools. Prepared by the Tokio Educational Museum. (72 Specimens.)

(9.) Minerals arranged to represent scale of Hardness.

(10.) Set of Simple Physical Apparatus for use in Elementary Schools, Tokio Normal School. (38 Articles.)

These have been prepared by scholars of the Tokio Normal School under the direction of the teacher in physics, and are made up entirely of common everyday articles. It will be seen that bamboo, which is found abundantly everywhere in Japan, is used much. The construction of these apparatus is very useful in making scholars comprehend physical laws, and is moreover likely to be of service to them, should any of them ever find himself in an out-of-the-way school which cannot afford to buy a good equipment of apparatus.

(11.) Photograph of simple Physical Apparatus shown in No. 10. Tokio Normal School.

(12.) Tools used in making simple Physical Apparatus. Tokio Normal School. (52 Articles.)

These were used in constructing the physical apparatus given in No. 10.

(13.) Set of Simple Chemical Apparatus for use in Elementary Schools. Tokio Female Normal School. (31 Articles.)

These have been prepared by female students of Tokio Female Normal School under the direction of the teacher in chemistry with exactly the same objects as those given for No. 10. It will be seen that the cheapest and commonest articles have been used. Of course, these are inferior to, and do not last as long as more costly chemical apparatus, but in the hand of a good teacher may become very useful.

B.—Diagrams, Copies, Text-Books, &c.

(14.) "Easy Experiments in Physical Sciences." (1 Volume.)

C.—Specimens of School Work.

(15.) Chemicals prepared by Students of Tokio Female Normal School. (30 Specimens.)

Class LII.

Art Teaching.

Drawing is taught in Elementary Schools, in the case of boys from the intermediate grade, in that of girls from the lower grade upward. Here they are carried through only slate and pencil drawings, the method of teaching being always from the simple to the complex. In higher schools for girls and in private art schools, India-ink Drawing and Painting with colours are taught. The apparatus used in these cases are shown in No. 3 of the present class. As pupils usually copy the teacher's own drawings, or draw from nature, there is not much demand for printed drawing copies, which are on this account comparatively unsatisfactory.

There are three or four private schools for oil-painting, but as that art is not native to our country and is not taught in ordinary schools, no oil-paintings are exhibited here.

In the Kiyoto Art School, one of the most important institutions of its kind, there are two departments, the Art Department proper, and the Accessory Department. In the latter are taught Japanese and Chinese Literature, History, Physics, Chemistry, Mathematics, Geometry, and other studies accessory to art. In the former there are for the present two main branches, one for Fine Arts and the other for Industrial Arts. The first includes courses in Japanese, Chinese, and European Painting; the second branch comprises painting on porcelain and earthenware, on lacquerware, for dyeing, for embroidery and for weaving. Nos. 11–17 illustrate the methods of teaching these arts.

There are several schools of painting prevalent in Japan at the present day. To name the principal ones among them, there are the Schools of Kosé, Tosa, Sumiyoshi, Kano, Shijo, besides the two Chinese Schools, Northern and Southern, and European oil-painting. Class XXXIX. No. 18, is of the Kano School; Nos. 13 and 14 of the same class (representing the game of Dakiu), and No. 62 in the present class are in the Sumiyoshi style, a branch of the Tosa School. No. 63 is of the Shijo School, and Nos. 17 and 63 belongs to the Southern (Nanshiu) Chinese School.

A.—Apparatus, Models and Fittings for Elementary Art Instruction in Schools.

(1.) Drawing Desk for use in Elementary School attached to Tokio Normal School.

(2.) Set of Drawing Instruments for use in Elementary School attached to Tokio Normal School. (1 set of 5 Articles.)

The above two exhibits are for pencil drawings.

*(3) Apparatus and Materials for India-ink and Water-colour Painting. Tokio Female Normal School. (1 set of 13 Articles.)

These may be taken as fair specimens of a Japanese artist's outfit.

(4.) Set of Colours and Brushes for Painting on Porcelain and Earthenware. Department of Industrial Arts, Kiyoto Art School. (1 set of 13 Articles.)

Of this set, eight articles are colours and five are brushes. For steps, etc. in teaching this art, see the Portfolio, No. 11.

(5.) Set of Colours, Brushes, and Accessories for Painting on Lacquer-ware. Department of Industrial Arts, Kiyoto Art School. (1 set of 34 Articles.)

For the order followed in teaching this art, see the Portfolio, No. 12.

(6.) Set of Colours. Brushes, and Accessories for Painting Designs for Dyeing. Department of Industrial Arts, Kiyoto Art School. (1 set of 26 Articles.)

This is the art of painting designs on silk or muslin to be dyed. There are two principal styles, Yuzenzomé and Chiayazomé. For the method of teaching, see the Portfolio, No. 13, and for designs, the work entitled "A Collection of Ancient and Modern Designs," No. 47. In the present set, (1–16) are the various apparatus for keeping stretched the stuff to be painted; (7–15) for mixing colours, and (6–26) are the colours.

*(7.) Set of Colours and Brushes for Water-Colour Painting. Fine Arts Department, Kiyoto Art School. (1 Set of 43 Articles).

This set is used for painting in the Japanese, Chinese, and European styles, and consists of colours, and brushes both flat and round. This is a fair specimen of an artist's outfit, although there may be some slight differences, according to the school to which he belongs. The chart placed with this exhibit has three drawings of which the first and second show how to use colours and apparatus, and the third how to spatter gold dust. For steps in teaching Painting, see the Portfolios, Nos. 16 and 17.

B.—Designs, Copies, Text-Books, etc.

*(8.) Drawing Copy Books for Elementary Schools.

*(9.) Ditto.

*(10.) Ditto.

*(11.) Portfolio of Typical Designs, etc., for Porcelain and Earthenware. Department of Industrial Arts, Kiyoto Art School.

*(12.) Portfolio of Typical Designs, etc., for Lacquerware. Department of Industrial Arts, Kiyoto Art School.

*(13.) Portfolio of Typical Designs, etc., for Dyeing. Department of Industrial Arts, Kiyoto Art School.

*(14.) Portfolio of Typical Designs, etc., for Embroidery. Department of Industrial Arts, Kiyoto Art School.

This shows the art of painting designs on dresses, etc., to be embroidered. It can be begun only after ordinary painting has been mastered.

*(15.) Portfolio of Typical Designs, etc., for Weaving. Department of Industrial Arts, Kiyoto Art School.

(16.) Portfolio of Typical Designs, Drawings, etc., in Japanese style. Department of Fine Arts, Kiyoto Art School.

Although there are, as before mentioned, several schools of painting, the methods of teaching in use are not very different from those shown in this portfolio.

*(17.) Portfolio of Typical Designs and Paintings in Nanshiu (Southern) Chinese School. Department of Fine Arts, Kiyoto Art School.

*(18–56.) Collection of Copy-Books, Text-Books, Books of Paintings, and Drawings, etc. (39 Works with 168 Volumes.)

These contain copy-books, paintings, drawings of various schools, and will therefore serve to show differences of style among them. Among others, No. 56 (Collection of famous pictures of Japan and China) answers very well for this purpose. These works are also largely used by workers in industrial arts.

C.—Specimens of Art Work, etc., in Schools.

*(57.) Drawings and Maps by Students of Tokio Normal School.

*(58–61.) Drawings, etc., by Students of Tokio Female Normal School and of its Adjuncts: Higher Schools for Girls and Girls' Elementary Schools.

*(62.) Water Colour Paintings by Scholars of Sumiyoshi Art School (private), Tokio.

*(63.) Paintings and Writings by Scholars of Atomi Female School (private), Tokio.

*(64) Drawings by Scholars of Kiusen Gakko (private), Tokio.

Class LIII.

Technical and Apprenticeship Schools.

Before the Restoration, all handicrafts were taught in our country only by the method of apprenticeship, and this is still the prevalent mode. The apparatus and instruments used in various trades and in teaching apprentices are shown in Nos. 1–22. There is, however, at the present day, a tendency to give technical

education in schools, and the Department of Education has given it every encouragement, well knowing that nobody can become a skilled mechanic or head of a workshop, or teacher of technical education, without being first well-grounded in fundamental scientific principles, and that well-qualified persons are very much needed in these days, when factories and workshops are springing up on all sides. For instance, in some districts, it has been lately settled that boys in elementary schools should be given rudiments of technical education. Again, the Department of Education has just organised in Tokio a Technical School under its own jurisdiction. It is to be greatly regretted that all these having been but very recently started, no results can as yet be shown of them, and nothing beyond the photograph of the Technical School just spoken of, is exhibited here. In regard to other technical schools, public and private, such as Art Schools, Schools of Architecture, of Pottery, etc., the lack of time has not enabled us to prepare a large number of exhibits. The only institution tolerably represented being Kaikoshia, a private school of Japanese Architecture (see No. 23 and Nos. 32–41). Some of the exhibits from this school are certainly worth the visitor's attention, although even in this case, the representation is not such as could have been made, if sufficient time had been allowed.

A.—Apparatus and Reference-Books used in Teaching of Apprentices and in Schools of Architecture.

(1.) Blacksmith's Tools and Specimens of Blacksmith's Work. (1 set, with 18 articles.)

This set not only represents tools used in teaching apprentices, but those in general use by the trade. The same remark holds good of other sets of tools.

(2.) Metal-worker's Tools. (1 set, 33 Articles.)]

(3.) Wood-Sawer's Tools. (1 set, 11 Articles.)

(4.) Carpenter's Tools. (1 set, 93 Articles.)

(5.) Models of Wood-Joints. (32 Articles.)

This gives some of the many methods of joining pieces of wood made use of by carpenters. For the practical application of these methods, see the Model, No. 33.

(6.) Joiner's or Door-Maker's Tools. (1 set, 32 Articles.)

(7.) Models of Joinery and Cabinet-Ware. (8 Articles.) In our country, the trade of "sashimonoya" (cabinet-maker's) is entirely separate from that of "tateguya" (joiners). Of the present set, the first five models show the methods of constructing the cabinet-ware, *i.e.* of joining pieces of wood in various kinds of dovetails. The remaining three are specimens of the joiner's work; sliding doors, &c. For further models of doors, &c., see No. 33. Tools used by cabinet-makers are taken partly from the carpenters, partly from the joiners, and are not therefore exhibited here.

(8.) Cooper's Tools and Specimens of Cooper's Work. (1 set, 37 Articles.)

(9.) Wood-Turner's Tools and Specimens of Wood-Turning. (1 set, 26 Articles.)

(10.) Wood-Carver's Tools and Specimens of Wood-Carving. (1 set, 22 Articles.)

(11.) Printing-Block Worker's Tools and Specimens of Printing-Block. (1 set, 25 Articles).

(12.) Ivory-Carver's Tools and Specimens of Ivory-Carving. (1 set, 58 Articles.)

There are many kinds of carving, such as metal, stone, wood, bamboo, tusk, horn, and shell carving, but the exhibits from No. 10 downward will give an idea of principal kinds among them. For tools used in metal-engraving, see those for copper-engraving used by the Deaf-Mutes, Class 54, No. 25.

(13.) Plasterer's Tools and Specimen of Plastering. (1 set, 21 Articles.)

The "shiyakuan" or plasterer's business, consists in plastering the walls of houses and fire-proof store-houses (godowns). The specimen given of the plasterer's work is the model of the entrance-door to a fire-proof store-house.

(14.) Stone-Cutter's Tools and Specimens of Stone-Cutting. (1 set, 20 Articles.)

These are the tools used in cutting stone for houses, walls, or monuments, and in finishing stone either smooth or rough. To give a polish, the smoothly-finished surface is rubbed with whetstones which are not exhibited here.

(15.) Mat-Maker's Tools. (1 set, 10 Articles.)

These are the tools for making mats so universally used in our houses. For models of mats see those used in No. 33.

(16.) "Magemono" (Round-Box) Maker's Tools and Specimens of "Magemono." (1 set, 18 Articles.) *Magemono* are round-boxes and other utensils of daily use made by bending wood. (1–4) are materials used in this trade; (5–17) are the tools, and (18) is a specimen of *Magemono*.

(17.) Tools for Shingle-Roofing and Model of Shingle-Roofs. (1 set, 3 Articles.)

The roofs of temples, palaces and houses in our country are all shingled, either to be left without any further elaboration or to be covered over with tiles. There are several classes of shingle-roofs, according to the quality and mode of arrangement. Another mode of roofing is that of covering with pine-bark (*Thuya obtusa*. Beuth et Hooke). The model given here is that of ordinary first-class shingle-roof.

(18.) Tools and Materials used in making common lacquer and gold lacquer ware. (1 set, 78 Articles.)

Of this set, the first part consisting of tools (1–20), and materials (1–8) relate to common lacquer work. The second part with tools (1–43) and materials (1–6) belongs to gold-lacquer.

(19.) Models illustrating process of making lacquered box. (1 set, 10 Articles.)

This exhibit gives different steps in the manufacture of a lacquer-box beginning with pieces of wood (1), and ending with a finished box (10).

(20.) Illustrations of Different Stages in Preparation of Gold-Lacquer.

This gives six different stages in the preparation of first-class raised gold lacquer.

(21.) Specimens showing process of lacquering sword-cases (scabbards). (1 set, 44 Articles.)

In feudal days, workmen who lacquered sword-cases, formed a class by themselves distinct from ordinary workers in lacquer. But since the abolition of the custom of wearing swords, these handicraftsmen have taken to manufacturing household articles, and their work has acquired the reputation of being very durable and strong. In the present exhibit, are shown the following methods of lacquering sword-cases:—

A. Black-Lacquer Process	(1–15)
B. Hemp-Winding Process	(1–11)
C. Stamping Process	(1–6)
D. Corrugating Process	(1–4)
E. Pear-Ground Process	(1–4)
F. Shell In-laying Process	(1–4)

(22.) Specimens of Lacquered Sword-Cases. (1 set, 39 Articles.)

There are about 80 to 100 different ways of lacquering sword-cases. The thirty-nine specimens in the present set will give some idea in regard to the finish of sword-cases.

(23.) Drawing Instruments, *Kaikoshia* (Private School of Architecture) Tokio. (1 set, 7 Articles.)

These instruments are used not only in this school, but universally by Japanese architects.

(24–28.) Reference-Books. (35 works, 51 volumes.)

These are a few specimens of works useful as reference-books in teaching technical arts.

B.—Models, Plans, and Designs for Fitting-up of Workshops and Industrial Schools.

*(29.) Photographs of main building and wood-work Department of Tokio Shokko-Gakko. (Tokio Technical School.)

C.—Results of Work done in Industrial Schools.

*(30–31.) Calendar of Tokio Shokko-Gakko (in English and Japanese).

This gives the constitution, regulations, courses of instruction, &c., of this institution.

(32.) Rules of Kaikoshia (Private School of Architecture), Tokio.

(33.) Model of Daimio's Palace, Scale 1-25. Made by students of *Kaikoshia.*

This model, true to the minutest details, represents the part enclosed within red lines in the next Exhibit (Plan No. 34), and contains the Outer Gate, the Inner Gate, the Public Entrance, and that part of the palace devoted to Reception, Audience, &c., the private apartments not being represented. Such a palace as this model or plan (No. 34) exhibits would be adapted to large and powerful daimios, as Owasri, Kii, Mito (these three are called the Sanké), Tayasu, Hitotsu-bashi, Shimidsu (the Sankio), Yetchizen and others with an income of over 350,000 *kokus* of rice. For details, see the explanatory account (in Japanese) attached to the Exhibit.

(34.) Plan of Daimio's Palace. *Kaikoshia.*

(35.) Portfolio of Designs for Ornamental Carving. *Kaikoshia.*

(36.) Portfolio, with methods of using carpenter's square. *Kaikoshia.*

(37.) Portfolio of Diagrams of eaves-construction. *Kaikoshia.*

(38.) Portfolio of Diagrams for finding proportions of different parts of buildings. *Kaikoshia.*

(39.) Portfolio of Drawings of Wood-Construction. *Kaikoshia.*

(40.) Portfolio of Plans and Elevations. *Kaikoshia.*

(41.) Front Elevation of Pagoda. *Kaikoshia.*

Class LIV.

Schools for the Blind and for the Deaf and Dumb.

Although the education of the blind and of the deaf-mute has always been carefully attended to in our country, this has been done mostly in private families. There are at present only three public institutions for these unfortunate members of society, viz. :—the institutions for the blind and the deaf-mute in Kiyoto and Osaka, and the Institute for the Blind in Tokio. Of these, the one in Kiyoto, supported by the city government was the first to be established and is the best equipped. The appliances used there for teaching are well represented in this class, and many of

them will be found to have been devised by the director. In addition to ordinary branches of instruction various handicrafts and the art of shampooing are taught also, so as to enable scholars to earn their own living in after-life.

In our country the better classes among the blind learn music and earn their living by teaching it or by playing at entertainments. The poorer practice shampooing and acupuncture. Among the deaf-mutes the lower classes work as common workmen. It will be seen from the exhibits of the Kiyoto Institution that both the blind and the deaf-mute, when well taught, are fully capable of being made good artisans.

A.—Apparatus and Examples for Teaching.

(1.) Sketch representing teaching of characters to blind pupils by tracing them on palm of hand or back.

(2.) Raised and Depressed Characters for Blind Pupils.

(3.) Wax-Board for tracing characters for use of Blind Pupils.

(4.) Apparatus for marking off proper spaces for characters for use of Blind Pupils.

(5.) Apparatus for tracing characters by puncturing with sharp point.

(6.) Writing Apparatus for use of Blind Pupils.

(7.) Writing Apparatus for use of Blind Pupils.

(8.) Writing Apparatus for use of Blind Pupils.

The above exhibits are used either for the purpose of teaching writing to the blind, or for writing by the blind. As the label accompanying each exhibit, explains the methods of using it, they are not given here. There are some among our educators who think that Chinese characters are too difficult to be taught to the Blind, and that some reforms ought to be carried out in this respect.

(9.) Diagrams representing a Mode of Counting by the Blind.

Each position of fingers relatively to the body represents a number.

(10.) Abacus for use of the Blind.

The beads are cut across and made flat on one side so as not to be disturbed by accidental touches of fingers.

(11.) Calculating Board for use of the Blind.

(12.) Compass for use of the Blind (in Wooden Case).

(13.) Compass for use of the Blind (in Brass Case).

(14.) Diagrams of Visible Speech for Deaf-Mutes.

Although deaf-mutes seldom learn to speak, they often become able to understand what other people say when well taught from this chart.

(15.) Diagrams of Signs for Fifty Sounds of Japanese Syllabary.

(16.) Diagrams of Signs to be traced on Palm of Hand.

(17.) Diagrams of Signs for Fifty Sounds of Japanese Syllabary.

(18.) Chart representing the Blind and the Deaf-Mute at their Lessons.

Various modes of arranging blind and deaf-mute scholars in class-rooms have been originated by the Director of the Kiyoto Institution. Thus sketch No. 1 in the chart represents the mode of arranging blind pupils, and sketch No. 2, that for mute pupils. In the latter, a dull scholar is placed with a bright scholar, thus alternating those of high and low standings, and securing a more uniform progress of a whole class. Sketch No. 3 represents deaf-mute scholars arranged in a semi-circle.

(19.) Model of Chair for Shampooing with Figures.

(20.) Model of Bed for Shampooing with Figures.

(21.) Set of Shampooing Apparatus.

As shampooing is still extensively practised by the blind in our country, the art is taught in the Kiyoto Institution where the chair and the bed have however, been used for the first time.

(22.) Illustrations of different stages in teaching blind pupils manufacture of twisted paper ware. Institution for the Blind and the Deaf-Mute, Kiyoto.

This industry consists in making woven goods and household utensils out of different kinds of paper, and is taught in the Kiyoto Institution to both sexes of the blind. The numbers attached to the articles give various steps in teaching it. To state them briefly: (1) Strips of paper are twisted; (2) The result of the first stage is braided together into larger and compound threads; (3) these latter are further braided into household utensils, or (4) they are woven. In (5) are shown diagrams of various apparatus used in the manufacture. The course of instruction comprises three-and-a-half years, and those who have gone through it become competent hands at the trade. For results of work, see Nos. 39–42 in the present class.

*(23.) Illustrations of different stages in teaching deaf-mutes embroidery. Institute for the Blind and the Deaf-mutes, Kiyoto.

The art of embroidering flowers, animals, and other ornamental designs with various coloured threads is taught to mute-girls in the Kiyoto Institution. The steps in teaching are given in the present series: (1) and (2) goldthread embroidery; (3) Oranda-embroidery (*i.e.* Dutch embroidery); (4) Flat-thread embroidery; (5) Sagara embroidery; (6) Yoseïto embroidery; (7) Suga embroidery; (8) Keshi embroidery; (9) is the sketch representing the stand for embroidery and other apparatus. The course of instruction occupies four years, and a fifth is given to practice. For results of work see Nos. 36 and 37 in the present class.

(24.) Illustrations of different stages in teaching deaf-mutes working in wood. Institution for the Blind and the Deaf-mute, Kiyoto.

This series illustrates steps in teaching cabinet-making and working in Chinese and Japanese wood to male deaf-mutes. The numbers attached to the articles themselves give the order of instruction:—*(1) wooden pegs are made; (2) soft, and then hard wood is sawed; (3) and (4) sawed pieces are planed; *(5) and *(6) boxes are made; (7) and (8) hard wood is carved and made into furniture or utensils; *(9) gives sketches of the apparatus used. Instruction extends over three and a half years.

*(25.) Illustrations of different stages in teaching deaf-mutes copper-engraving. Institution for the Blind and the Deaf-mute, Kiyoto.

This series gives stages in teaching male deaf-mutes the art of engraving, and inlaying on, copper; (1) gives some of the tools employed; (2) the support on which the copper piece is fastened to be worked; (3) (4) and (5) are specimens of engraving and in-laying, beginning with simple designs or figures and gradually becoming more and more complicated. The course of instruction covers a period of five years. For results of work see Nos. 43 and 44.

(26.) Sketch representing blind and deaf-mute. Children at play. Institution for the Blind and the Deaf-mutes, Kiyoto.

The games are intended to cultivate the senses of the children, especially that of direction in the blind.

(27.) Raised Wooden "Katakana" Letters, Japanned.

(28.) Raised "Katakana" Letters of Brick.

(29.) Rules of Japanese Language for Use of Blind Pupils. (Raised character on paper.)

(30.) Directions for Elementary School Children for Use of Blind Pupils (Raised characters on paper.)

(31.) School-Reader for Use of Blind Pupils. (Raised characters on paper.)

(32.) Set of Apparatus for making Envelopes. For Use of Blind Pupils.

The exhibits from No. 27 to No. 32 are teaching appliances from the Institute for the Blind (private), Tokio. In this school, music and the manufacture of envelopes are taught. For specimens of work see No. 46.

B.—Specimens of School Work.

(33.) Composition and Writing by Blind Pupils. Institution for the Blind and the Deaf-mute, Kiyoto.

(34.) Compositions and Verses by Blind Pupils. Institution for the Blind and the Deaf-mute, Kiyoto.

(35.) Drawings by Deaf-mute Pupils. Institution for the Blind and the Deaf-mute, Kiyoto.

(36.) Piece of Embroidery (Figure of Deer) by Mute Girls. Institution for the Blind and the Deaf-mute, Kiyoto.

(37.) Piece of Embroidery (Figures of Peony and Birds) by Mute Girls. Institution for the Blind and the Deaf-mute, Kiyoto.

In the above two exhibits, the frame and metal-work are by Mute Boys of the Institution.

(38.) Stand for Tea Utensils, by Mute Boys. Institution for the Blind and the Deaf-mute, Kiyoto.

(39.) Bag (Valise), of Woven Twisted Paper Goods, by Blind Pupils. Institution for the Blind and the Deaf-mute, Kiyoto.

The metal work is by Mute Boys of the Institution.

(40.) Lunch Basket of Twisted Paper, by Blind Pupils. Institution for the Blind and the Deaf-mute, Kiyoto.

(41.) Tea-Cup of Twisted Paper, by Blind Pupils. Institution for the Blind and the Deaf-mute, Kiyoto.

(42.) Water Pitcher of Twisted Paper, by Blind Pupils. Institution for the Blind and the Deaf-mute, Kiyoto.

(43.) Copper Cake Dish, by Mute Pupils. Institution for the Blind and the Deaf-mute, Kiyoto.

(44.) Pair of Copper Jars, by Mute Pupils. Institution for the Blind and the Deaf-mute, Kiyoto.

(45.) Rattan Flower Baskets, by Mute Pupils. Institution for the Blind and the Deaf-mute, Kiyoto.

*(46.) Envelopes made by Pupils of Institute for the Blind, Tokio.

Class LV.

Literature, Statistics and Designs relating to Group 6 and to the Effects of "Cramming" and Overwork on the Young, &c.

In the present class there are brought together the literature and statistics concerning Elementary Schools such as Record-Books of the Elementary School attached to Tokio Normal School, Regulations of the Kindergarten attached to Tokio Female Normal School, and of Elementary Schools in other districts. As English translations are given in many cases, the visitor is referred to them for details.

(1–15.) Specimens of Records, Statistics, and Registers of Elementary School attached to Tokio Normal School. (14 Volumes and 1 Chart.)

(16.) Regulations of Kindergarten attached to Tokio Female Normal School.

(17.) Ditto (in English).

(18.) Examination Questions. Elementary School attached to Tokio Normal School.

(19.) Regulations for Examinations of School Children. Shizuoka Ken (Prefecture).

(20.) Standard Outlines of the Course of Study for Elementary Schools (in English).

(21.) Directions for Teachers of Elementary Schools (in English).

(22.) Regulations of Elementary School attached to Tokio Normal School.

(23.) Ditto (in English).

(24.) Regulations of Girls' Elementary School attached to Tokio Female Normal School.

(25.) Ditto (in English).

(26.) Course of Study for Elementary Schools. Kiyoto Fu (City Government).

(27.) Course of Study for Girls' Elementary Schools. Kumamoto Ken (Prefecture).

(28.) Regulations of Sakurai Female School (private), Tokio.

(29.) Calendar of Sakurai Female School (private), Tokio.

(30.) Regulations of Meirin Female School (private), Tokio.

(31.) Method of Itinerary Instruction. Sappro Ken (Prefecture).

Class LVI.

Collective Displays of School Work and Appliances.

The exhibits brought together in the present class are Educational Code and Regulations, Books and Appliances for higher education, &c., and are calculated to give a general idea of the present state of Education in Japan.

(1.) Code of Education.

(2.) Ditto (in English).

(3.) Notifications issued by Department of Education during years 1881–1884 (10 Volumes).

(4.) General Outlines of Education in Japan (in Japanese and English).

(5.) Ninth Report of Minister of Education (1881).

(6.) Eighth Report of Minister of Education (in English).

All the above exhibits relate to the Educational Code, Regulations and Reports, and the visitor is referred to them for a general aspect of Education in Japan.

(7–19.) Documents relating to Normal Schools (10 Volumes and 3 Charts).

These are Regulations, Records, Statistics, Reports, &c., and will give an idea of the condition of our Normal Schools.

(20–24.) Documents relating to Middle Schools (5 Volumes and 1 Chart).

These are Regulations, Reports, &c., relating to Middle Schools and Higher Schools for Girls.

(25–31.) Documents relating to Professional and Special Schools (9 Volumes).

Nos. 25–28 are General Regulations for Medical, Pharmaceutical, Agricultural and Commercial Schools, issued by the Department of Education.

No. 29 is the Calendar of Tokio Gaikoku Gogakko (School of Foreign Languages), for the year 1882–83.

No. 30 is the Regulations of Government Schools for Physical Training. No. 31 is the same in English.

(32–36.) Pamphlets and Documents relating to University of Tokio (5 Volumes).

(37–58.) Regulations, Statistics, &c., relating to General Educational Matters (12 Volumes and 10 Charts).

(59.) Papier Maché Anatomical Figure (with Explanatory Notes).

This anatomical figure was made in the Medical Department of the University of Tokio by S. Kitagawa, under the direction of T. Imada, Assistant Professor in that Institution. In many respects it is superior to such figures hitherto made. Half of it can be opened freely and parts like the brain and eye can be taken apart in many different places. For detailed information, see the Explanatory Notes attached to it.

(60.) Specimens of Vegetable Poisons. (1 Case.) These have been prepared from poisonous plants of our country by the Professor of Chemistry and Pharmacy in the Medical Department of the University of Tokio. No. 61 of the present class is the memoir in German on these Poisons.

All the exhibits from No. 61 to No. 85 inclusive are works published by the *University of Tokio*. As English translations accompany many of them, the visitor will be able to gather at once what they treat of.

(61.) Phytochemischen Notizen über einige Japanische Pflanzen. (In German. 1 Volume).

(62.) Shell Mounds of Omori. (1 Volume.)

(63.) Ditto (in English. 1 Volume).

(64.) Reports on the Meteorology of Tokio for 1879–80. (2 Volumes.)

(65.) Ditto (in English. 1 Volume).

(66.) Geology of the Environs of Tokio. (1 Volume.)

(67.) Ditto (in English. 1 Volume).

(68.) Measurements of the Force of Gravity at Tokio and the Summit of Fuji (in English. 1 Volume).

(69.) Chemistry of Saké Brewing. (1 Volume.)

(70.) Ditto (in English. 1 Volume.)

(71.) Wave Lengths of some of the Principal Fraunhofer Lines of the Solar Spectrum (in English. 1 Volume).

(72.) Earthquake Measurements (in English. 1 Volume).

(73.) Measurements of the Force of Gravity at Sappro (in English. 1 Volume).

(74.) Okadaira Shell Mound in Hitachi (in English. 1 Volume).

(75.) Geology of Northern Hitachi (in English. 1 Volume).

(76.) Tables for the Determination of Minerals. (1 Volume.)

(77.) Short Notice of Japanese Minerals. (1 Volume.)

(78.) Handbook of Metallurgy. (1 Volume.)

(79.) Dictionary of Philosophical Terms. (1 Volume.)

(80.) Gakugei Shirin. A Monthly Journal of Science and Art. (1881–4. 7 Volumes).

(81.) Comparative Tables of Japanese, English, and French Weights and Measures. (1 Volume.)

(82.) Catalogue of Plants in Botanical Garden, University of Tokio. 2nd Part. (1 Volume.)

(83.) Table showing Results of Experiments on Japanese Timber.

(84.) Report on Analysis of Drinking Water of Tokio. (1 Volume.)

(85.) Table showing Results of Experiments performed on Japanese Timber, Bricks, and Copper Wires by Students in Engineering (in English. 1 Volume).

The Exhibits from No. 86 to No. 103 inclusive are theses or abstracts of theses presented by Students in Chemistry to the Rector of the University of Tokio, on their graduation. Only those treating of subjects likely to be of interest to foreigners have been placed here.

(86.) On Japanese Pigments, by T. Takamatsu.

(87.) On Shoyu, by T. Isono.

(88.) Chemistry of Copper Smelting in Japan, by T. Nakasawa.

(89.) Japanese Dyeing and Printing (Abstract), by M. Kuhara.

(90.) Japanese Tea and Tobacco (Abstract), by J. Takayama.

(91.) Japanese Starch-giving Materials (Abstract), by S. Ito.

(92.) Japanese Indigo (Abstract), by T. Ishido.

(93.) Soils and Manure (Abstract), by M. Hida.

(94.) Japanese Method of Sugar-Making (Abstract), by K. Ota.

(95.) Japanese Fuels (Abstract), by Y. Kitamura.

(96.) Japanese Tanning Materials (Abstract), by G. Ishikawa.

(97.) Japanese Alloys (Abstract), by I. Hisata.

(98.) Salt Manufacture in Japan (Abstract), by K. Tachibana.

(99.) Japanese Materials for Bottle-Glass (Abstract), by Y. Tokoroya.

(100.) Japanese Camphor Oil (Abstract), by H. Oishi.

(101.) Japanese Materials for Ultramarine and Prussian Blue (Abstract), by K. Iwabuchi.

(102.) Japanese Sea-weeds (Abstract), by T. Kato.

(103.) Banko Wares (Abstract), by T. Uyeda.

The exhibits from Nos. 104 to 125 inclusive relate to Tokio Normal School and Tokio Female Normal School. Both of these institutions have been established by the Department of Education. In the first, two courses are provided, the one fitting teachers for Middle Schools, and the other for Elementary Schools. In addition, a Boys' Elementary School is attached. In Tokio Female Normal School, pupils are fitted to be teachers in girls' elementary schools. To the Schools are appended also Higher School for Girls, Girls' Elementary School, and a Kindergarten. The school exhibits arranged here are apparatus for teaching, text-books published by these schools, and specimens of work of the Normal students and those of the Higher Girls' School.

(104.) Reversible Benches. Tokio Normal School. This seats two persons in front and two persons behind. When occasion requires it, the front seat can be reversed and gradually brought up in front of the persons in the back seat, making desks for those two. This was devised by S. Izawa, formerly Principal of Tokio Normal School.

(105.) Box of Ink-Stone for India-Ink, with Accessories, for use of Students. Tokio Female School.

(106.) Box of Ink-Stone for Red Ink, with Accessories, for use of Teachers. Tokio Female Normal School.

(107–112.) Text-Books and Copy-Books published by Tokio Normal School (6 Works with 18 Volumes).

These have been compiled or translated in Tokio Normal School, and relate to Writing, Arithmetic and History. They are extensively used in other schools.

(113–125.) Specimens of Work done by Students of Tokio Normal School and of Tokio Female Normal School (including Higher School for Girls).

Here are brought together examination papers, maps, compositions and other specimens of work done by the students of the institutions named above. No. 118 is a sketch representing female students attending lessons in making tea, arranging flowers and playing on *Koto* (a musical instrument)—accomplishments taught along with other domestic arts.

The exhibits from Nos. 126 to 133 inclusive relate to the Tokio Educational Museum, established by the Department of Education to promote facilities of education. The Museum contains collections of School Appliances and Apparatus, of Physical and Chemical Instruments, of Animals, Plants and Minerals, besides a well-stocked library of literary, scientific and educational works, and is open daily to the public. To mention one or two spheres of usefulness which the institution has marked out for itself, it undertakes, at the request of schools distant from the capital, to select good and reliable physical and chemical apparatus, and to send them to the desired locality, for the introduction of such apparatus in teaching is of a recent date and schools would be puzzled to know how to choose. Again the Museum makes up and distributes at the lowest prices possible sets of Natural History specimens, as this task involves collecting specimens far and near at various seasons, and cannot be easily undertaken by private individuals.

(126.) Photograph of Tokio Educational Museum.

(127.) Photograph of Grounds of Tokio Educational Museum, with Library Building in View.

(128–133.) Regulations, Catalogues, and Guides. Tokio Educational Museum.

(134–192.) Works published by Department of Education. (59 Works with 196 Volumes.) The Department of Education not only undertakes the publication of elementary text-books as shown in Class 48, Nos. 110–135, but also employs specialists to compile or translate text-books in special branches of higher education or reference-books for the use of the educational profession, as shown in the present series of exhibits. The number of works thus published now amounts to 167 books (with a total of 740 volumes) and 83 maps and charts. These are distributed gratis to public schools, libraries, and museums, and are also sold to private individuals at low prices. Thus the department hopes to develope gradually higher as well as elementary education.

The exhibits from No. 193 to No. 205 inclusive relate to the *Institute of Music*. This is a part of the Department of Education established a few years since to make inquiries into musical matters in general, to select and compile songs and their notes for schools, to examine the methods of teaching them, and to undertake the improvements of popular music. To carry out these objects, the Institute has a certain number of students training in various special branches of music, who, it is hoped, will become competent in future to examine into musical matters, and to make improvements in our music. The Institute also sends out teachers to Tokio Normal School and Tokio Female Normal School to teach singing and playing on koto, organ, &c. On this account, not only European but Japanese musical instruments shown in Nos. 203 and 204 are used in the Institute, and differences in various musical scales are investigated. For results of such work, see the charts shown in Nos. 195 and 196; also for the history and constitution of the Institute, see the calendar (No. 194).

(193.) Photograph of Institute of Music.

(194.) Calendar of Institute of Music (in English).

(195.) Charts showing tuning of classical musical instruments (4 rolls).

(196.) Charts showing tuning of popular musical instruments (4 rolls).

(197.) Collection of Songs for elementary schools.

(198.) Charts of Songs for elementary schools.

(199.) Stand for Charts.

(200.) Mason's National Music Reader (in Japanese).

(201.) Callcott's Grammar of Music (in Japanese).

(202.) Yousses' Catechism of Music (in Japanese).

(203.) Classical Musical Instruments.

These comprise eight instruments: (1) Shō, (2) Hichiriki, (3) Riuteki (a flute), (4) Komabuye (literally, Corean flute), (5) Kagurabuye (literally, flute for sacred music), (6) Wa-gon (literally, Japanese Koto) with Kotoji (bridges) and plectrum, (7) Koto with Kotoji (bridges) and nail-ivories, (8) Biwa with plectrum.

(204.) Popular Musical Instruments.

These comprise four instruments: (1) Koto with Kotoji (bridges) and nail-ivories, (2) Shiamisen with plectrum, (3) Kokiu (violin) with bow, (4) Shiakuhachi.

(205.) Examination Papers by students of Institute of Music. (5 Volumes.)

THE END.

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